

WHAT IS CLAIMED IS:

1. A hearing aid, comprising:

a main body having a forward end and a rear end;

a forward face having an upper surface;

a speaker oriented in the rear end;

- 5 a microphone element oriented in the forward face; and

a boundary button connected to the forward face and oriented over and generally parallel to the microphone.

2. The hearing aid as claimed in Claim 1 further comprising legs connected between a lower surface of the boundary button and the upper surface of the forward face.

3. The hearing aid as claimed in Claim 2 further comprising a space formed between the forward face and the boundary button, the width of the space generally being defined by the length of the legs.
4. The hearing aid as claimed in Claim 3 wherein the space is a pressure zone.
5. The hearing aid as claimed in Claim 1 wherein the microphone element has a diameter and the boundary has a diameter.
6. The hearing aid as claimed in Claim 5 wherein the diameter of the boundary button is larger than the diameter of the microphone element.
7. The hearing aid as claimed in Claim 6 wherein the diameter of the boundary button is twice the diameter of the microphone element.

8. The hearing aid as claimed in Claim 1 wherein the forward end of the microphone element is oriented flush with the upper surface of the forward face.

9. A microphone, comprising:

a first boundary having a first surface;

a microphone pressure membrane oriented in the boundary generally flush with the first surface; and

5 a second boundary generally parallel to the first boundary, the second boundary being oriented directly in front of the membrane and parallel to the membrane.

10. The microphone as claimed in Claim 9 further comprising legs connected between the first surface and the second boundary.

11. The microphone as claimed in Claim 10 wherein the legs space the first and second boundaries to create a high frequency cut-off of the microphone.

12. The microphone as claimed in Claim 9 wherein the first boundary has a diameter greater than the diameter of the second boundary.

13. The microphone as claimed in Claim 9 wherein the second boundary has a diameter greater than the diameter of the membrane.

14. The microphone as claimed in Claim 9 wherein the diameter of the first boundary creates a low frequency cut-off.

15. The microphone as claimed in Claim 9 wherein the diameter of the second boundary creates a low frequency cut-off.

16. The microphone as claimed in Claim 9 wherein the area of the first boundary and the area of the second boundary have an effective combined area that enhances the hemispherical three dimensional pick-up pattern of the microphone.

17. A hearing aid kit, comprising:

a hearing aid having a forward face and a microphone oriented in the forward face;

and

a boundary button adapted to be connected to the forward face.

18. The kit as claimed in Claim 17, wherein the forward face is a first boundary, the microphone being positioned in the first boundary flush to the first boundary.

19. The kit as claimed in Claim 18, wherein the boundary button is a second boundary, the second boundary being adapted to create a pressure zone between the microphone and the second boundary when the boundary button is mounted on the forward face.

20. The kit as claimed in Claim 19, wherein the distance between the microphone and the boundary button determines the high frequency cut off of the microphone.

21. The kit as claimed in Claim 20 wherein the relationship of the diameters of the boundary button and the microphone determine the low frequency cutoff of the microphone.